

Tilburg School of Economics and Management

**Course List *MSc Quantitative Finance and Actuarial Science***

To be admitted to the MSc Quantitative Finance and Actuarial Science, the topics and the corresponding skills related to mathematical proofs and mathematical reasoning covered in the following nine courses offered by the BSc Econometrics and Operations Research (EOR) at Tilburg University is required:

* Linear Algebra
* Introduction Analysis and Probability Theory
* Mathematical Analysis 1
* Mathematical Analysis 2
* Probability and Statistics
* Statistics for Econometrics
* Advanced Linear Algebra
* Differentiation and Integration Theory
* Econometrics

**The contents of these nine courses are available in the** [**Course Contents document**](https://www.tilburguniversity.edu/sites/default/files/download/Course_contents%20EME%20and%20QFAS.pdf)**.** **Please check this document for more information.**

**Please note that if you have no knowledge of Quantitative Finance, you may also benefit from following the BSc EOR course Quantitative Finance at Tilburg University before starting the MSc QFAS. This, however, is not mandatory.**

To assess your eligibility for admission, we require information regarding your previous education. Please include all courses you have completed (or will complete before the start of your (pre-)Master’s program at Tilburg University) as part of your previous degree(s) in the required subject fields of the Course List on the next page(s). Please include the following information:

* Course name (as mentioned on your transcript)
* Number of Credits/ECTS for each course
* Your grade as well as the grade scale (e.g., 7/10 or 14/20, B on a scale of A-E)
* Program in which the course(s) are offered (e.g., Econometrics &OR; (applied) mathematics, (technical) physics, Industrial Engineering…)
* A course description for each course (in English or in Dutch), describing the main content of the course (covered topics, learning objectives, used literature etc.). You can find a course description in the course catalogue or on the website of your educational institution. Please consult your current study advisor on how to obtain this information. If your current university cannot provide a course description, you can write it yourself. Next to this, please add the URL of the course description in your university’s course catalogue (*mind: not just the URL, please fill in the complete course description on the form itself*).
* In case you already studied or are studying a Master’s program as well, you need to indicate for each course whether it was taken at Bachelor’s or Master’s level.

Should you have completed more courses in any of the listed fields, please add additional rows for that field.

**Please note that**:

1. These courses must have been part of a degree that you either have obtained or will obtain before you start your (pre-)Master’s program at Tilburg University.
2. We need to be able to find the courses you added in the course list on your Transcript of Records.
3. We may invite you for an online interview before deciding on admission if further information is required.

**Example**

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| **Course** | **Course Name** | **Number of Credits/ECTS** | **Grade** | **Program in which the course(s) are offered** |
| **Probability and Statistics**  EXAMPLE | 1. *Introduction to Probability and Mathematical Statistics* | *6* | *7/10 B* | *Finance and Accounting* |
| Course Description: We study multivariate distributions, requiring techniques from calculus and mathematical analysis (differentiation and integration). We also discuss transformations of random variables and their properties. Next, limit concepts and limit theorems are considered like the law of large numbers and the central limit theorem. The statistical part discusses inference (estimation and testing) related to the normal distribution.  Literature: 1. L.J. Bain & M. Engelhardt, Introduction to probability and mathematical statistics, Duxbury, 2nd edition (1992). Chapters 4 - 9.  2. *Readers during lectures, Manual on Canvas*  *Bachelor’s level, Example University*  <https://www.exampleuniversity.edu/course-outlines/stat3012> | | | |
| For each course mentioned above, please indicate which topics from the BSc EOR Probability and Statistics covered (see the Course Contents document): | | | | |
| ***Introduction to Probability and Mathematical Statistics – Bain/Engelhardt***  4. Joint Distributions  4.1. Introduction  4.2. Joint discrete distributions  4.3. Joint continuous distributions  4.4. Independent random variables | | | | |

*Please note that the final assessment of your application as a whole lies with the Admission Committee. The requirements above are indicative. Your application for the Master’s program will be considered for the Master’s as well as for the pre-Master’s program in Quantitative* Finance and Actuarial Science*.*

**Please upload the completed course list as a PDF file in Osiris Aanmeld as part of your application**

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| **Course** | **Course Name[[1]](#footnote-1):** | **Number of Credits/ECTS[[2]](#footnote-2):** | **Grade[[3]](#footnote-3)** | **Program in which the course(s) are offered[[4]](#footnote-4):** |
| **Linear Algebra** | 1. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| 2. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| 3. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| For each course mentioned above, please indicate which topics from the BSc EOR Linear Algebra are covered (see the Course Contents document): | | | | |
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| **Mathematical Analysis 1** | 1. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| 2. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| 3. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| For each course mentioned above, please indicate which topics from the BSc EOR course Mathematical Analysis 1 are covered (see the Course Contents document): | | | | |
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| **Mathematical Analysis 2** | 1. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| 2. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| 3. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| For each course mentioned above, please indicate which topics from the BSc EOR course Mathematical Analysis 2 are covered (see the Course Contents document): | | | | |
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| **Probability and Statistics** | 1. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| 2. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| 3. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| For each course mentioned above, please indicate which topics from the BSc EOR course Probability and Statistics are covered (see the Course Contents document): | | | | |
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| **Statistics for Econometrics** | 1. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| 2. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| 3. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| For each course mentioned above, please indicate which topics from the BSc EOR course Statistics for Econometrics are covered (see the Course Contents document): | | | | |
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| **Advanced Linear Algebra** | 1. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| 2. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| 3. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| For each course mentioned above, please indicate which topics from the BSc EOR course advanced Linear Algebra are covered (see the Course Contents document): | | | | |
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| **Differentiations and Integration Theory** | 1. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| 2. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| 3. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| For each course mentioned above, please indicate which topics from the BSc EOR course Differentiations and Integration Theory are covered (see the Course Contents document): | | | | |
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| **Econometrics** | 1. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| 2. *Name of the course* | *Code of the course* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| 3. *Name of the course* | *Credits/ECTS* | *Grade* | *Program in which the course(s) are offered* |
| Course Description: *description of the main content and topics covered during the course* | | | |
| For each course mentioned above, please indicate which topics from the BSc EOR course Econometrics are covered (see the Course Contents document): | | | | |
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| Total number of Credits/ECTS obtained during your previous degree:  *Total number of Credits/ECTS* | | | | |

Please type your full name and the date you completed the form below. **By doing so, you are confirming that you have completed this checklist correctly.** It is your responsibility to ensure that the information is correct and complete.

Full name: ……………………………………………………………………………………………. Date: day/month/year

1. Please write down the name of the course exactly as it appears on your Transcript of Records. [↑](#footnote-ref-1)
2. Please write down the number of Credits/ECTS obtained for the course exactly as it appears on your Transcript of Records. [↑](#footnote-ref-2)
3. Please write down your grade as well as your grade scale (e.g., 7/10 or 14/20, B on a scale of A-E). If you have not completed the course yet, you can leave this empty. [↑](#footnote-ref-3)
4. Please write down program in which the course(s) are offered. [↑](#footnote-ref-4)